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*J. Michael Neary*  
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*Aug 2 2002*  
Date

Inventor: Christopher W. Gabrys )

) Group Art Unit: 2834

Serial No.: 10/037,823 )

) Examiner: Leda T. Phan

Filed: Nov. 9, 2001 )

Title: **"Flywheel System with Tilt Switch"**

**August 2, 2002**

**Election**

Commissioner for Patents  
Washington, DC 20231

Sir,

Responsive to the Restriction Requirement dated July 2, 2002, Applicant elects with traverse, the claims of Group I for prosecution in this Application. In response to the requirement for election of species, Applicant elects, with traverse, the species of Fig. 3. Applicant's grounds for traversing both requirements are stated in the Remarks section below.

**Remarks**

Applicant respectfully requests reconsideration of this application as amended herein.

The Restriction Requirement asserts that Group I (claims 1-16), and Group II (claim 17) are related as subcombinations disclosed as usable together in a single combination. Claims 1 and 17 are reproduced below for convenience of considering the question of whether they do indeed define "subcombinations disclosed as usable together in a single combination".

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1. A flywheel energy storage system, comprising:
  - an energy storage flywheel supported on a bearing system for rotation about a substantially vertical axis inside a container with an internal low friction atmosphere;
  - a motor and a generator for accelerating and decelerating said flywheel for storing and retrieving energy; and
  - a tilt sensor that detects if the orientation of the axis of rotation is outside a predetermined tolerance from vertical, and produces a signal to trigger appropriate corrective actions.
  
17. A flywheel energy storage system, comprising:
  - an energy storage flywheel supported on bearings for rotation about a substantially vertical axis inside a container with an internal low friction atmosphere;
  - a motor and a generator for accelerating and decelerating said flywheel for storing and retrieving energy; and
  - a tilt switch that detects earthquakes.

Both claims claim a flywheel energy storage system having an energy storage flywheel supported on a bearings and a motor and generator for accelerating and decelerating the flywheel for storing and retrieving energy. The primary difference between these two claims is that in claim 1, the tilt switch detects a non-vertical orientation, and in claim 2, the tilt switch detects earthquakes. The Examiner asserts that the two claimed devices are "subcombinations disclosed as usable together in a single combination", but does not explain how two flywheel energy storage systems can be used together in a single combination. Applicant does not understand what the Examiner has in mind. In what way would these two flywheel energy storage systems be used together? In fact, they are intended to be two ways of claiming the exact same devices, but with the tilt switch in the two claims performing two different functions, but each of which functions can usually be performed by the exact same kinds of tilt switches. Normally, an earthquake would cause a tilt from the vertical orientation, but it could produce merely a horizontal translation, which could be damaging to the flywheel energy storage system, so the operator would want to know that it had occurred to

assess whether anything needed to be done. Therefore, Applicant added claim 17 to cover the earthquake detection function of the tilt switch to prevent an underhanded infringer from attempting to avoid the patent by asserting that his tilt switch was an earthquake detector rather than a tilt switch. But Applicant intends that these claims be merely for different aspects of the same type of device.

Claims 18-20 (Group III) call for a process of storing and recovering energy in a flywheel energy storage system. The process steps correspond basically to the structural elements in claim 1, namely:

- accelerating a flywheel in rotation about a substantially vertical axis inside a container with a brushless motor, for storing energy in the form of rotational inertia of said flywheel;

- decelerating said flywheel with a generator for retrieving said stored energy in the form of electrical energy;

- supporting said flywheel for rotation on a bearing system;

- detecting if the orientation of the axis of rotation of said flywheel is beyond a predetermined tolerance from vertical through use of a tilt sensor; and

- generating a signal with said tilt sensor for signaling corrective action to be taken when said flywheel axis of rotation is beyond said predetermined tolerance from vertical.

The Examiner asserts that the invention defined by claim 18 is distinct from the inventions claimed in claims 1 and 17 because the process defined in claim 18 "can be practiced with another materially different product such as making the sensor in remote of unit alarm." Applicant does not understand what this means, but whatever it means, Applicant does not know of another materially different product that can be used to perform the process of claim 18. Claim 18 is not limited to using the signal generated by the tilt switch to sound a local or remote alarm, if that was what the Examiner meant.

The Examiner identifies three patentably distinct species, namely:

1<sup>st</sup> Embodiment: Figs. 1, 4 and 5

2<sup>nd</sup> Embodiment: Fig. 2

3<sup>rd</sup> Embodiment: Fig. 3.

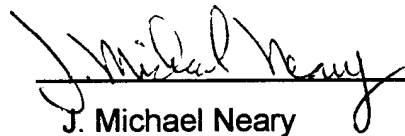
Applicant does not understand why the Examiner has lumped Figs. 4 and 5 with Fig. 1 but not with Figs. 2 and 3, as is clearly the intent of the specification. The subject matter of Figs. 4 and 5 was never identified only with Fig. 1 but was also intended to be

usable with Figs. 2 and 3 as well. Applicant has elected the 3<sup>rd</sup> Embodiment, but believes that Figs. 4 and 5 in combination with Fig. 3 are part of the elected species. Thus, Applicant considers claims 5-17 to be generic to all species.

The claims readable on the elected species are claims 1-3 and 5-17.

Applicant respectfully solicits an examination on the merits based on this election and identification of generic claims and claims readable on the elected species.

Respectfully submitted,

A handwritten signature in cursive script, reading "J. Michael Neary", written over a horizontal line.

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